

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated March 11, 2009 has been received and its contents carefully reviewed. Claims 1 and 3-17 are currently pending, of which claims 4-17 are withdrawn from consideration. Reexamination and reconsideration of claims 1 and 3 are respectfully requested.

The Office Action rejected claims 1 and 3 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0093077 to Jung et al. (*Jung*) in view of U.S. Patent Application Publication No. 2004/0048978 to Okada et al. (*Okada*) and U.S. Patent Application Publication No. 2004/0048004 to Hosaka et al. (*Hosaka*), and further in view of U.S. Patent No. 6,664,021 to Maeda et al. (*Maeda*) or U.S. Patent No. 6,159,654 to Machida et al. (*Machida*). Applicants respectfully traverse the rejection.

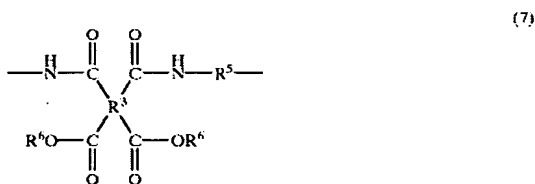
In order to establish *prima facie* obviousness of the claimed invention, all the elements must be taught or suggested by the prior art. The combined teaching of *Jung*, *Okada*, *Hosaka*, and *Maeda* or *Machida* fails to teach or suggest every element of claims 1 and 3, and thus, cannot render these claims obvious.

Amended claim 1 recites, "said reactive transparent polyimide precursor is a negative type photosensitive precursor." *Jung* fails to teach or suggest at least this feature of claim 1. In fact, the Office Action admits that "Jung does not teach his polyimide being negative polyimide precursor." *Office Action*, page 5. *Okada* fails to cure the deficiency of *Jung*. The Office Action cites *Okada* for disclosing "a reactive transparent polyimide precursor and polyimide." *Office Action*, page 4. *Hosaka* also fails to cure the deficiency of *Jung* and *Okada*. The Office Action only cites *Hosaka* for disclosing alicyclic tetracarboxylic acid. *Office Action*, page 5.

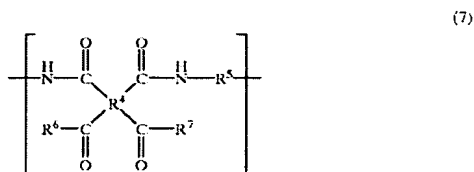
Maeda or *Machida* also fails to cure the deficiency of *Jung*, *Okada*, and *Hosaka*. The Office Action states "it would have been obvious to a person of ordinary skills in the art to apply Jung's polyimide, modified with Okada, Machida or Maeda as negative type precursor, since it possesses excellent sensitivity and resolving properties which can inhibit volume shrinkage at the time of curing, can suitably adhere to a substrate, and can form a polyimide coating film pattern having good heat resistance on the substrate by baking." *Office Action*, page 7. Applicants

respectfully disagree. Negative type precursor is different from positive type precursor in operation mechanism. Although *Maeda* or *Machida* discloses analogous polyimides, these polyimides are completely different and cannot be interconverted. In other words, if one negative type precursor and one positive type precursor are presented by analogous formulae, they still cannot be interconverted because of the different operation mechanism by light.

Furthermore, the polyimides disclosed *Maeda* or *Machida* are different from the polyimide of claim 1. Specifically, *Maeda* discloses a formula (7)



, wherein R⁶ is an alkyl group having 1 to 7 carbon atoms. *Maeda*, column 3, line 45, and column 4, lines 29-30. Similarly, *Machida* also discloses



, wherein R⁶ and R⁷ is an organic group having a hydroxyl group bonded directly to an aromatic ring. *Machida*, column 12, lines 52, 66-67. In the present application, claim 1 requires that “R₁ and R₂ are independently each other hydrogen atom, or organic groups having 1 to 20 carbon atoms including one or more ethylenically unsaturated bond(s), provided that they are not hydrogen atoms at the same time.” Because the R groups are different, the polyimides are also different. Moreover, in the present application, it is possible to manufacture negative-type photosensitive resin compositions with enough development margin without additional multi-functional monomers, to reduce the amount of photo-initiator necessary; and to improve photosensitivity. As a result, the composition of claim 1 shows the unexpected results. See Synthetic Examples 1~5, Preferred Embodiments 1~3, and Testing Example. Because the polyimides disclosed *Maeda* or *Machida* are different from the polyimide of claim 1 and the composition of claim 1 shows unexpected results, it would not have been obvious to one of ordinary skill in the art to combine *Maeda* or *Machida* with *Jung*, *Okada*, and *Hosaka*.

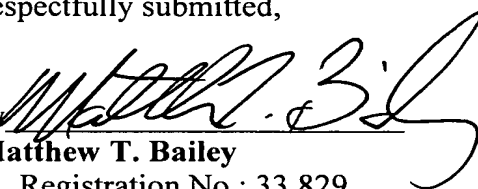
Accordingly, claim 1 is allowable over the combined teaching of *Jung, Okada, Hosaka*, and *Maeda* or *Machida*. Claim 3 depends from claim 1 and is, therefore, also allowable for at least the same reasons as claim 1. Thus, Applicants respectfully request withdrawal of this rejection.

The application is in condition for allowance. Early and favorable action is respectfully solicited. If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. § 1.136, and any additional fees required under 37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911.

Dated: August 25, 2009

Respectfully submitted,

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